UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,381	09/18/2003	Gunter Pietsch	02198/0200044-US0	5027

7278 7590 09/08/2005

DARBY & DARBY P.C.
P. O. BOX 5257
NEW YORK, NY 10150-5257

EXAMINER	
RAZA, SAIRA B	
ART UNIT	**PAPER NUMBER**
1711	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,381	PIETSCH, GUNTER	
	Examiner	Art Unit	
	Saira Raza	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) 8-33 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1/21/04 & 2/26/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 8-33 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

2. It is suggested the applicant rephrase the multiple dependency stated in claim 5, instead of "at least one of the above claims," more appropriate language would be --any one of the above claims--.

Information Disclosure Statement

3. The examiner considered the information disclosure statements; however, the applicant is required to correct the country code from "DK" to --DE-- on the IDS received February 26, 2004.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ito (EP 0-718-116 A2).

6. Ito discloses the limitations specified in claim 1: a process for encapsulating a solution of color reactants of color-reaction systems present in an aqueous emulsion accomplished by means of conventional microencapsulation processes, in which: (a) The color reactant is first dissolved in a solvent. (Page 9, Line 41). Wherein Ito specifies one choice of the color reactant is Crystal Violet Lactone (CVL), a widely employed color reactant (color former) giving blue coloration (Pg. 3, Line

15). The "solvent" utilized by Ito is a mixture of vegetable oil C_1-C_8 alkyl ester and a bisphenol compound ("good solvent"); wherein this solvent mixture is capable of dissolving the color reactant, CVL (Pg. 3, Line 31).

7. Ito further discloses, in reference to claim 1, (b) A non-dissolver, which may insignificantly dissolve the color reactant, is mixed into the solution formed by step (a) in an amount that establishes a supersaturated solution (Pg. 9, Line 43). Wherein the "non-dissolver" is a solvent whose properties include water and oil insolubility (Pg. 8, Line 31), hence it cannot dissolve the color reactant. The "non-dissolver" of Ito is utilized as a shell material of the microcapsule (Pg. 8, Line 31). If the shell material could readily dissolve the color reactant, then the goal of Ito to create a solvent, which can dissolve the color reactant, would have been trivial (Pg.3, Line 31). The relatively stable solution prepared by step (b) of claim 1, is considered to be inherently supersaturated due to the greater quantity of the dissolved solute than that of the saturation value provided the solute phase is absent, where the solute phase is considered to be the solution containing the color reactant, vegetable oil and "good solvent." The high mixing speed required to form the supersaturated solution is an inherent property of the process to ensure a homogenous solution.

8. In reference to claim 1, Ito states that the supersaturated solution (primary solution) was poured into the aqueous phase (secondary solution), while the aqueous phase was vigorously stirred, hence forming an oil-in-water emulsion (Pg. 9, Line 50).

9. Immediately after the formation of the oil-in-water emulsion of Ito, the encapsulation process is started (Pg. 9, Line 51).

10. The limitations of claims 2-4 are satisfied, wherein Ito states that an example of the desired vegetable oil is rapeseed oil methyl ester (Page 5, Line 56). The rapeseed oil methyl ester can be obtained from eruca acid rich rapeseed oil, which is not produced by plant-breeding techniques that

limit the eruca acid content of the oil. The rapeseed oil methyl ester is utilized in a purified form to minimize contaminants, a common lab practice.

11. The limitations of claims 5-7 are satisfied by Ito, wherein Ito discloses that CVL does not sufficiently dissolve in a vegetable oil (Pg. 3, Line 16); however, the bisphenol compound is a "good solvent," which readily dissolves the color reactants in the vegetable oil C_1-C_8 alkyl ester (Pg. 3, Line 31). Bisphenol is also considered an aromatic solvent and an alkylated biphenyl (Pg. 3, Line 40).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pietsch et al. (US Pat. No. 4,748,146) in view of Ito (EP 0-718-116 A2).

15. In reference to claim 1, Pietsch et al. discloses: a process for encapsulating a solution of color reactants (one example cited is Crystal Violet Lactone) of color-reaction systems present in an

aqueous emulsion accomplished by means of conventional microencapsulation processes, in which: (a) The color reactant is first dissolved in a solvent; (b) A non-dissolver, which may insignificantly dissolve the color reactant, is mixed into (a) in an amount that establishes a supersaturated solution; (c) The supersaturated solution of (b) is emulsified immediately in the aqueous phase while mixing, and immediately thereupon the encapsulation is performed (Col. 2, Line 39).

16. The high mixing speeds required, as in claim 1, are inherent properties of the process of mixing (b), and (c) above to ensure a homogenous solution.

17. In reference to claims 5 & 6, Pietsch et al. describes the addition of an aromatic solvent or "good solvent," which is readily capable of dissolving the reactants of the color reaction systems (Col. 4, Line 9). Furthermore, in reference to claim 7, Pietsch et al. discloses that alkylated biphenyls and alkylated naphthalenes can be utilized as the aforementioned aromatic solvent (Col. 4, Line 12).

18. The microencapsulation process of Pietsch et al. does not include the addition of a vegetable oil C_1-C_8 alkyl ester as the solvent; specifically, Pietsch et al. does not refer to the vegetable oil C_1-C_8 alkyl ester as a purified rapeseed oil methyl ester. Hence attention is directed towards the Ito (EP 0-718-116 A2) reference.

19. In reference to claims 1-4, Ito discloses the microencapsulation of a color reactant (one example is Crystal Violet Lactone) in which the color reactant is initially dissolved in a solvent containing vegetable oil methyl ester and bisphenol (an alkylated biphenyl aromatic "good solvent") (Page 3, Line 31). Additionally, Ito states that an example of the desired vegetable oil is rapeseed oil methyl ester (Page 5, Line 56). The rapeseed oil methyl ester can be obtained from eruca acid rich rapeseed oil, which is not produced by plant-breeding techniques that limit the eruca acid content of the oil. The rapeseed oil methyl ester is utilized in a purified form to minimize contaminants, a common lab practice.

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included purified rapeseed oil methyl ester as a solvent in the process of microencapsulation of Pietsch et al. in view of the teachings of Ito in order to utilize a solvent component that has no malodor, is safe from the viewpoint of ecology and is available at low prices (Page 3, Line 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saira Raza whose telephone number is (571) 272-3553. The examiner can normally be reached on Monday-Friday from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700